

Remarks

The Applicant respectfully requests reconsideration of this application as amended. In this amendment, Applicant has amended no claims. No claims have been cancelled. Hence, claims 1 – 20 are pending in this application after the filing of this amendment.

General Discussion

Prior to discussing each rejection in detail, each of the cited references and the Application are discussed generally. The Office based one or more rejections on U.S. Pat. No. 6,147,994 to Duree et al (hereafter Duree), U.S. Pat. No. 6,683,865 to Garcia-Luna-Aceves (hereafter “Garcia”), or U.S. Pat. No. 6,275,494 to Endo (hereafter “Endo”).

Duree, Garcia, and Endo are all generally related to setting up a route or delivery mode for packets sent from a source node to destination node. For example, in Duree, for each call, a CCM selects a VPI/VCI to the destination node. Duree at col. 34, ll. 13 – 16. In Garcia, routing operation codes (ROCs), rather than VCIs, are used to specify the mode of delivery for packets. Garcia at col. 4, ll. 43 – 53. In Endo, a gateway assigns a VCC to each packet input to the network and the packet is input to the VPC corresponding to its destination based on the IP address and a VPC mapping table. Endo at Abstract.

In contrast to Duree, Garcia, and Endo, the present application relates to notifying a gateway and/or nodes connected to a node, about a plurality of VCIs associated with other gateways. A gateway connected to the node can thereby implement virtual circuit paths with other gateways in the network. For example, a first node can receive packets that include a plurality of virtual circuit identifiers associated with gateways in the network, and determine if any of the gateways are connected to the first node. A message is then transmitted to the connected gateways that informs the connected gateways of the plurality of VCIs. The application can also include assigning other VCIs to connected gateways and sending the other VCIs to other nodes to facilitate implementation of virtual circuit paths by the other nodes.

Claim Rejections – 35 U.S.C. § 102

The Office rejected claims 13, 15, 17, and 19 under 35 U.S.C. 102(e) for allegedly being anticipated by Duree. The Applicant traverses these rejections for the following reasons.

Claim 13 is reproduced here:

13. A method of forwarding packets received at a first gateway in a network, comprising:

receiving a message at the first gateway, the message comprising a plurality of virtual circuit identifiers associated with other gateways in the network;

receiving packets for transmission from the first gateway to a destination address associated with a second gateway; and

sending the received packets towards the second gateway using one of the received plurality of virtual circuit identifiers.

Claim 13 recites, in part, receiving a message at the first gateway, the message comprising a plurality of virtual circuit identifiers associated with other gateways in the network. The Office asserts that this element is disclosed in Duree at col. 33, ll. 53 – 56, which are reproduced here for convenience:

“Gateway 2605 and 2655 have been described above. They modify the VPI/VCIs in ATM cells as instructed by control messages from the CCMs. CCM 2610 and 2660 are described above. They process signaling and select VPI/VCIs on a call by call basis. The selections are provided to the gateways.”

The above passage states that the CCMs select VPI/VCIs on a call by call basis and the selection for each call is provided to the gateway. The VPI/VCIs provided to the gateway are associated with that gateway and that particular call. Later, Duree explains that the CCM sends a control message to the gateway that identifies a VPI/VCI from gateway 2605 and the VPI/VCI to the node 2685. Id., col. 34, ll. 17 – 19. With the control message, the CCM uses pre-provisioned VPI/VCIs to create a connection from the source node 2625 to the destination node 2685 for this particular call using pre-provisioned VPI/VCIs through the gateway 2655. Id.

As such, Duree does not disclose transmitting (or receiving) a message comprising a plurality of VCIs associated with other gateways in the network. In fact, if the control message were to include VCIs for a plurality of other gateways, the receiving gateway in Duree would not carry out the call delivery as intended by Duree.

For at least these reasons, Duree fails to disclose or suggest all the limitations of claim 13. Claims 15, 17, and 19 recite similar limitations to those of claim 13. Thus, for at least

the same reasons provided for claim 13, Duree fails to disclose or suggest all the claim limitations of any of claims 15, 17, and 19.

Claim Rejections – 35 U.S.C. § 103

The Office rejected claims 1, 2, 4, 5, 7, 8, 10, 11, and 20 under 35 U.S.C. 103(a) as being allegedly unpatentable over Duree in view of Garcia. The Office rejected claims 14, 16, and 18 under 35 U.S.C. 103(a) as being allegedly unpatentable over Duree in view of Endo. The Office rejected claims 3, 6, 9, and 12 under 35 U.S.C. 103(a) as being allegedly unpatentable over Duree in view of Garcia and if further view of Endo. Applicant traverses these rejections.

Claims 1, 2, 4, 5, 7, 8, 10, and 11

Claim 1 is reproduced here for convenience:

1. A method of distributing virtual circuit identifiers associated with gateways in a network, comprising:
receiving, at a first router/switch, packets comprising a plurality of first virtual circuit identifiers associated with gateways in the network;
determining if any of the gateways are connected to the first router/switch;
assigning, at the first router/switch, second virtual circuit identifiers to connected gateways; and
initiating the transmission of a message from the first router/switch to the connected gateways informing the connected gateways of the plurality of first virtual circuit identifiers.

The Office states that the CCM is assigning the VCI for the gateway 2665. Applicant disagrees. The CCM is selecting a pre-provisioned VCI for the gateway 2665 to use to send information to the node 2685. Duree explicitly states the following:

“CCM 2660 will process the IAM from Node 2625 to select a VPI/VCI to node 2685” See Duree, col. 34, ll. 13 – 14. (emphasis added).

The cross-connect 2670 will transfer cells to the node 2685 based on the pre-provisioned VPI/VCI selected by the CCM 2660. Id., col. 34, ll. 23 – 25. Thus, Duree’s CCM is not assigning second virtual circuit identifiers to connected gateways, but rather selecting a

VPI/VCI. Applicant has reviewed Duree and can find no disclosure of assigning second virtual circuit identifiers to connected gateways. For at least this additional reason, Duree and Garcia fail, either in combination or separately, to disclose or suggest all the limitations of claim 1.

The Office asserts that Duree discloses at col. 33, ll. 53 – 56, initiating the transmission of a message to the connected gateways informing the connected gateways of the plurality of first virtual circuit identifiers. Duree at col. 33, ll. 53 – 58 is reproduced here:

“Gateway 2605 and 2655 have been described above. They modify the VPI/VCIs in ATM cells as instructed by control messages from the CCMs. CCM 2610 and 2660 are described above. They process signaling and select VPI/VCIs on a call by call basis. The selections are provided to the gateways.”

The above passage states that the CCMs select VPI/VCIs on a call by call basis and the selection for each call is provided to the gateway. Later, Duree explains that the CCM sends a control message to the gateway that identifies a VPI/VCI from gateway 2605 and the VPI/VCI to the node 2685. Id., col. 34, ll. 17 – 19. The VPI/VCIs sent to the gateway 2655 are associated with that gateway 2655 to facilitate delivery of that particular call. The CCM is simply choosing a pre-provisioned VPI/VCI from the gateway 2655 to the final node 2685 for a particular call to complete the connection. As such, the CCM in Duree does not initiate a transmission of a message to the connected gateways informing the connected gateways of a plurality of first virtual circuit identifiers. For at least this reason, Duree and Garcia fail to disclose or suggest, either together or separately, all the limitations of claim 1.

In addition, there is no motivation to combine Garcia with Duree for at least the reason that Garcia teaches away from the use of virtual circuits identifier (VCIs). Garcia proposes the use of routing operation codes (ROCs) in packet headers. Garcia, col. 4, ll. 43 – 47. ROCs specify a mode of forwarding packets, rather than a VCI. The ROC modes discussed in Garcia are broadcast, hop-by-hop based on receiving node address information, label swapping, source-switching, flow switching, or hop-by-hop based on sending node address information. Id. at col. 4, ll. 47 – 52. Generally, these modes specify whether a router should accept a packet and/or local link identifiers (LLIDs) given to routers along the path. Id. at col. 4, ll. 53 – 67; col. 5, ll. 1 – 4.

It is worth noting that Garcia does not even discuss the use of the system with respect to gateways. Garcia discusses use of look up tables by Internet Radios (IRs), without mentioning gateways. Garcia, col. 9, ll. 43 – 47; Fig. 1. For at least these reasons, Garcia cannot reasonably be combined with Duree to overcome the deficiencies of Duree.

As such, claim 1 is neither disclosed nor suggested by Duree or Garcia, either separately or in combination. Claims 4, 7, and 10 include elements similar to those of claim 1. Thus, Duree and Garcia, separately or in combination, fail to disclose or suggest all the limitations of any of claims 4, 7, and 10, for at least the same reasons given above for claim 1.

With regard to claims 2, 5, 8, and 11, these claims add initiating transmission of a packet to neighboring nodes informing the nodes of the assigned second virtual circuit identifiers and the plurality of first virtual circuit identifiers. The Office asserts that this element is shown in Duree at col. 32, ll. 59 – 61. As discussed above with respect to claim 1, the CCM of Duree does not assign VCIs, but rather selects a VCI for each call. Therefore, Duree does not initiate transmission of a packet to neighboring nodes informing the nodes of the assigned second virtual circuit identifiers and the plurality of first virtual circuit identifiers.

For at least the foregoing reasons, claims 2, 5, 8, and 11 are neither disclosed nor suggested by Duree. As such, Duree and Garcia fail to teach all of the elements of any of claims 2, 5, 8, and 11.

Claims 14, 16, and 18

Claims 14, 16, and 18 depend from claims 13, 15, and 17, respectively. As such, claims 14, 16, and 18 inherit the limitations of their respective base claims. Therefore, Duree fails to disclose or suggest the inherited limitations for at least the reasons given above. Endo does not add anything to overcome the deficiencies of Duree. As such, Duree and Endo, separately and in combination, fail to disclose or suggest all the limitations of any of claims 14, 16, and 18. In addition, each of claims 14, 16, and 18 include additional limitations distinguishable over the art of record.

Claims 3, 6, 9, 12, and 20

Claims 3 and 20, 6, 9, and 12 depend from claims 1, 4, 7, and 10, respectively. As such, claims 3, 6, 9, 12 and 20 inherit the limitations of their respective base claims.

Therefore, Duree fails to disclose or suggest the inherited limitations for at least the reasons given above. Neither Endo nor Garcia add anything to overcome the deficiencies of Duree. As such, Duree, Endo, and Garcia, separately or in combination, fail to disclose or suggest all the limitations of any of claims 3, 6, 9, 12, and 20. In addition, each of claims 3, 6, 9, 12, and 20 include additional limitations distinguishable over the art of record.

Conclusion

Applicant respectfully submits that the foregoing remarks have addressed all the issues raised in the Office action, have overcome the rejections, and that the pending claims are in condition for allowance. Accordingly, Applicant requests that the rejections be withdrawn and that a Notice of Allowance be issued forthwith.

Request for a Telephone Interview

If the Office believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-447-7739.

Respectfully submitted,



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